IN THE CLAIMS

1. (original) An optical detection method for separating surface and deep information of a medium, wherein a light source irradiates on a measured sample through an incident unit, and the light is detected by a detector after being processed by a receiving unit, the method is characterized in that the measuring system can realize the separation of the surface and deep information; and an optical probe and the measured sample are non-contact.

2. (currently amended) The optical detection method for separating surface information and deep information of a medium according to Claim 1, wherein a polarization method is used in said incident unit and the receiving unit; in the incident unit, a light is firstly polarized by a polarizing film ~~(5)~~ to transform a non-polarized light into a linearly polarized light, which is then focused on the skin surface by a focusing lens ~~(6)~~; in the receiving unit, a reflected light from deep tissue, together with that from skin surface, is collected by an optical lens ~~(7)~~ and then is focused on the detector ~~(9)~~ after transmitting through a polarization analyzer ~~(8)~~; in order to receive the deep information of the sample, the polarizing film ~~(8)~~ is made orthogonal to the polarizing film ~~(5)~~, and thus a backscattered light from a deep tissue loses its polarization so as being able to reach the detector; meanwhile, the surface reflected light keeps its polarization and can't pass through the polarizing film ~~(8)~~, so that the information of surface reflection is eliminated; in order to receive the surface information, said polarizing film ~~(8)~~ is made parallel to said polarizing film ~~(5)~~, and now both said surface and deep information is received, said deep information obtained under the condition of orthogonal polarization is subtracted from the total information, and then, the surface reflection information can be achieved.

3. (currently amended) The optical detection method for separating surface information and deep information of a medium according to Claim 1, wherein an optical baffle method is used in said incident unit and receiving unit;

in order to receive the deep information of the sample, an optical baffle ~~(10)~~ is used to be perpendicularly placed over the measured sample, close to the sample as near as possible but non-contact; incident and receiving light paths are positioned respectively at the two sides of the baffle, and among the reflected light, the surface reflected light is at the same side with the incident light so that it is baffled by the optical baffle; in the receiving unit, the reflected light from deep tissue bypasses the baffle and reflects at the receiving side, collected by a focusing lens ~~(7)~~ and then focused on the detector ~~(9)~~; and thus, the light collected by the detector is all the reflected light from deep tissue so that disturbance from the surface reflected light is eliminated;

in order to receive the surface reflection information, an optical baffle ~~(39)~~ with a very small hole in its center is used to be perpendicularly placed over the measured sample, close the sample as near as possible but non-contact; the incident point of the incident light passes said hole, and the reflected light emitted from said hole almost doesn't contain any backscattered light from deep tissue, but possesses only the surface reflected light, so that disturbance from the deep backscattered light is eliminated.

4. (currently amended) The optical detection method for separating surface information and deep information of a medium according to Claim 1, wherein a space imaging method is used in said incident unit and receiving unit; in the incident unit, since the reflection takes place at the light incident point, the incident light is focused on the skin surface; in the receiving unit, using a law of imaging, an imaging point is made different from the light incident point, and an optical stop ~~(11)~~ is used

to remove a stray light; and thus, the light collected by the detector ~~(9)~~ is all the reflected light from deep tissue of the sample, and due to imaging event, the surface reflected light is unable to enter the detector, so that disturbance from the surface reflected light is eliminated; when the imaging point overlaps with the light incident point and the stray light is removed by the optical stop ~~(11)~~, the received light is almost all the light reflected by the surface of the sample.

5. (original) The optical detection method for separating surface information and deep information of a medium according to Claim 1, wherein a space imaging method is used in said incident unit and receiving unit; by using this method, a measuring device for detecting deep information of a sample can be constituted, wherein a distance between a light incident point and a receiving imaging point should be longer than 1mm.

6. (currently amended) The optical detection method for separating surface information and deep information of a medium according to Claim 1, wherein a Brewster angle method is used in said incident unit and receiving unit; in the incident unit, the light is firstly polarized by a polarizing film ~~(5)~~ so that the polarization of incident light is parallel to the incident plane, after being focused by an optical lens ~~(6)~~, the light irradiates on the sample; for a single-wavelength measurement, the Brewster angle is fixed, and the incident angle is set equal to the Brewster angle; while for a multiple-wavelength measurement, the Brewster angle varies with wavelength, and the incident angle is set as the minimum Brewster angle; in the receiving unit, a backscattered light is received after being focused, and the imaging point of the focusing light path is away from the incident point as far as possible.

7. (original) The optical detection method for separating surface information and deep information of a medium according to Claim 1, wherein a measuring device for detecting sample concentration can be constituted by using any one of a polarization method, an optical baffle method, a space imaging method and a Brewster angle method; said measuring device will not be influenced by a surface reflection of the sample, and the sample is non-contact with said measuring device.

8. (original) The optical detection method for separating surface information and deep information of a medium according to Claim 1, wherein a measuring device for noninvasive detection of components of human body, especially the detection of human blood glucose concentration can be constituted by using any one of a polarization method, an optical baffle method, a space imaging method and a Brewster angle method; said measuring device will not be influenced by a surface reflection of the measured position, and the measured position is non-contact with said measuring device.

9. (original) The optical detection method for separating surface information and deep information of a medium according to Claim 1 wherein the feature comprising: an NIR spectral measuring device for detecting sample components can be constituted by using any one of a polarization method, an optical baffle method, a space imaging method and a Brewster angle method, in which a prismatic device is used for spectral measurement at any wavelength band within a range of 0.8 - 2.5 μm; a measuring device for detecting sample components can also be constituted, in which a laser diode emitting a single or multiple wavelength(s) is used as the light source.

10. (original) The optical detection method for separating surface information and deep information of a medium according to

Claim 1, wherein said method is preferably used to construct a non-contact measuring device, and contact measurement can also be realized using said method; e.g., in an optical baffle method, the optical baffle can contact with the measured sample.

11. (original) The optical detection method for separating surface information and deep information of a medium according to Claim 1, wherein in practical application, a combination of the surface and deep information can be used; e.g., in a polarization method, when a polarization state of a polarizer is parallel to that of an analyzer, the received information contains all the deep and surface information, whereby the surface information can be obtained through calculations.